GUARDING THE HEALTH OF PUPILS

GUIDANCE FOR TEACHERS

LOS ANGELES CITY SCHOOLS
School Publication No. 367 (Revised)
1944

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Office of the Superintendent
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FOREWORD

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The teacher occupies a most strategic position in guarding the health of pupils. By cultivating keen powers of observation and a fine understanding of what constitutes normal growth and development he is in an unexcelled position to detect slight deviations from normal. In most instances the teacher is also the first to observe early indications of poor health. When his observations are reported to the proper school health expert, many a pupil may be saved needless suffering or unhappiness.

The teacher also makes a notable contribution to pupil health by maintaining a classroom environment which exemplifies the best in school sanitation, including a happy, wholesome environment free from strain and tension.

V. KERSEY
Superintendent of Schools

INTRODUCTION

In this revised edition of *Guarding the Health of Pupils* the signs and symptoms of ill health have been made more specific and their application amplified. Simple screening tests have been introduced as an aid to teachers who will be assisting in this important work.

We gratefully acknowledge the excellent co-operation which we have received from the teaching staff and trust that the suggestions contained in this pamphlet may be of assistance in maintaining the health of our pupils.

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Director
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Approved:
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GUARDING THE HEALTH OF PUPILS

The school health program is an integral, functioning part of the whole educational organization; it might be called the heart of the organism, because without conscious efforts to conserve and perpetuate health, education fails in its chief purpose. In this program teachers are the direct agents, assisted by trained workers—physicians, nurses, dentists, corrective and physical education teachers—who advise concerning pupil needs and what should be taught. Teachers look upon pupils as living, growing individuals with health handicaps and health assets, varying needs and capacities. It is each teacher's responsibility to see that each pupil in his or her care receives the nutritional, medical, psychological, dental, and health-educational care required to make him a useful, well-rounded member of society. For more detailed discussion of the health education program see School Publication No. 389.

There are numerous preventive and remedial services available in the community and the schools. Family physicians care for pupils who can afford this service. Specialists and diagnostic clinics offer examinations and advice concerning eye, ear, heart, lung, orthopedic, nutritional, and psychiatric defects. For the indigent the Yale Street Clinic and its branches and the traveling dental clinics offer treatment. No remediable defect should go uncorrected.

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Morning Inspection

Teachers should devote ten or fifteen minutes every morning to inspection of their pupils for the purpose of checking on signs of communicable diseases, checking on physical defects and health habits of the pupils. Some of the outstanding things the teacher should note at this time, and whenever opportunity arises, are:

Condition of the skin
Condition of eyes and vision—if glasses have been prescribed is child wearing them?
Condition of mouth and teeth—evidence of oral hygiene
External evidence of enlarged tonsils and adenoids
Posture and habits of standing and sitting
Nutrition and dietary habits
Signs of fatigue, loss of sleep, overactivity
Cleanliness of person and clothing
Evidence of "nervous" habits: nail biting, tics, etc.

Signs and Symptoms of Acute Communicable Diseases

Since nearly all of the communicable diseases start with the same early symptoms, the following signs are of importance and should be reported:

Unusually flushed face
Unusual pallor of face
Any rash or spots
Swelling of neck glands
Symptoms of acute cold
Coughing or sneezing
Red or sore throat
Stiff or rigid neck
Nausea or vomiting
Red or watery eyes
Dizziness or headache
Chills or fever
Listlessness or sleepiness
Disinclination to play
Pains in chest, limbs, or back of neck

A child having any of these symptoms should be excluded from the room immediately and reported to the principal, in the absence of the nurse.

Remember

Acute colds are extremely contagious. The exclusion of one child with an acute cold may save ten others. What appears to be an acute cold may be the beginning of a more serious communicable disease.

All the above listed signs of health disorders are only suggestive. Teachers should never diagnose, but when such signs are observed should refer the child for the most expert examination and advice available.

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Symptoms of Communicable Skin Diseases *

The most common skin infections found in the schoolroom are:

1. IMPETIGO

This is characterized by individual isolated sores containing pus and later forming crusts. Children infected with impetigo must be excluded from school until recovery.

2. RINGWORM (Skin and scalp)

This is an individual, dry, scaly spot, usually appearing in circular patches, slightly reddened, with fine scales on the surface. Children infected with ringworm must be excluded from school until recovery.

3. SCABIES OR ITCH

This is characterized by a rash-like irritation usually starting in the web of the fingers but generally spreading onto the flexor surfaces of the wrist and forearm and to other parts of the body. There is fre-

* For more detailed information consult the 1944 Communicable Disease pamphlet.

quently evidence of scratching as these lesions are itchy. Children infected with scabies are excluded until all rash has disappeared or until readmitted by physician.

4. PEDICULOSIS OR HEAD LICE

This is first recognized by little white or silvery nits which are attached to the hair. They resemble dandruff except that dandruff is easily shaken off the hair, but the nits cling tightly. Children infected with pediculosis are excluded from school until their heads are free from lice and nits.

5. ATHLETE'S FOOT

This is a fungus infection often starting between the toes or on the soles of the feet. It is difficult to eradicate because the infection gets into the deeper layers of the skin. It may usually be prevented by strict cleanliness (using clean towels), drying thoroughly between the toes, wearing white cotton socks, changed daily, and wearing beach sandals or other footwear when frequenting locker rooms and swimming pools open to the general public. In high schools pupils should be encouraged to use the antiseptic foot baths available. Avoid shoes that increase perspiration such as tight shoes or shoes made of rubber or with crepe or composition soles. The habitual use of "sneakers" is to be discouraged. If infection has taken place a physician should be consulted.

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The following list classifies some of the common indications of health disorders and physical and mental defects to be found among school children:

Eye Defects

A child with defective vision may show one or more of the following:

(For screening tests see pages 17, 18 and 19.)

Signs

1. Difficulty in seeing at the normal distance.
2. Failure in work written by teacher on blackboard.
3. Frequent styes or scaly, ulcerated, or swollen lids.
4. Watery, discharging, or inflamed eyes.
5. Crossed or divergent eyes.
6. While reading the child may
   - Blink frequently
   - Tilt head to one side
   - Shut or cover one eye
   - Hold book too close or too far away

Symptoms

1. Frequent headaches.
2. Headaches or nausea and vomiting after riding or attending movies.
3. "Afternoon nerves." May become a "behavior problem."
4. Inattention.
5. Irritability.
6. Failure of an otherwise normal child to make normal progress.

Children whose eyesight is poor, with or without glasses, should be seated near the blackboard or wall charts. There should be adequate lighting. (For details see pages 19 and 20.) Children whose vision is so impaired that they are unable to do the regular classroom work in the usual time should be placed in a sight-saving class. Children who are "educationally blind" (unable to obtain an education through their eyes) should be placed in a school for the blind and taught Braille. (32nd Street School for elementary and junior high school pupils and Francis Polytechnic High for high school pupils.)

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Ear Defects

Children with defects of the organs of hearing may show one or more of the following:

1. Evident deafness
2. Ear discharge
3. Repeated earaches
4. Inattention
5. Peculiar listening posture
6. Anxious or listless expression, depending on temperament
7. Talking in too loud or too low a tone of voice
8. Irrelevant answers
9. Peculiar enunciation

Children with defective hearing should be seated as near as possible to the teacher's desk. Children who have been taught lip-reading or "speech-reading" should be seated on the window side of the room so that they see the lighted side of the teacher's face. A rough test for hearing is described on page 19. Children suspected of hearing loss should have an audiometer test.

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Dental Defects

Nearly all children have dental defects. For this reason all children should have regular supervision by a dentist. Common indications of dental defects are:

1. Cavities in the teeth

   Obvious cavities are indications that the decay may be so far advanced that the life of the tooth is endangered. Periodic examination by a dentist is insurance that defects will be found and corrected before extensive damage occurs.

2. Malocclusion (crooked teeth)
   a. Crowded arches
   b. Protruding teeth
   c. Spaces between teeth
   d. Poor articulation (bite)
   e. Mouth breathing (may cause malocclusion)
   f. Pressure habits (resting chin or face on hand, finger sucking, lip or tongue sucking may cause malocclusion).

3. Broken teeth

   Should be seen by a dentist immediately, no matter how slight the external appearance of the fracture.

4. Sore or inflamed gums

5. Offensive breath

   May indicate trench mouth (if gums are severely inflamed),

6. Dead or abscessed teeth.

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Signs Suggesting Heart Defects

About one or two per cent of our school children have organic heart conditions (valve or muscle defects). An equal number have functional conditions. Most acquired organic defects are due to childhood rheumatism or some other acute infection. Congenital or developmental defects are present at birth. Yale Street Clinic has a Heart Diagnostic Center for accurate diagnosis and recommendations regarding school program.

1. A child with a healed valve lesion may appear normal
2. Children with severely crippled (rheumatic) hearts may be:
   a. Undersized
   b. Pale
   c. Have deformed chest
   d. Have very rapid pulse at rest
   e. Be slightly short of breath at rest
   f. Be very short of breath on exertion
   g. Be easily fatigued
3. A child with congenital (born with) heart disease, if lesion is slight, may appear normal.

4. Children with congenital heart disease may be:
    a. Pale
    b. Undernourished
    c. Have deformed chest
    d. Have blue lips
    e. Have clubbed fingers
    f. Be short of breath on exertion
    g. Faint after exertion or excitement
5. The lack of development that often goes with heart disease may be indistinguishable from that accompanying malnutrition—except by the doctor.

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Signs Suggesting Tuberculosis

There are two phases of tuberculosis in children: (1) the primary or childhood type, and (2) the reinfection or adult type. It is important to remember that early tuberculosis of either type *does not show symptoms or signs* in the majority of cases. It is discovered by means of the Montoux test and the X-ray. The teacher can assist in discovering early tuberculosis by being alert to the following:

1. History of tuberculosis in family (contact exposure).
2. Possible contacts in home or elsewhere.
3. Slow recovery from
    Influenza
    Pneumonia
    Whooping cough
    Measles, followed by chronic cough.
4. History of frequent or protracted chest colds or bronchitis.
5. History of pleurisy.

It is important to keep clearly in mind the essential differences between the two types as follows:

I. Primary (childhood) Type

1. Generally non-communicable.
2. Complete recovery the rule with proper care.
3. Child may appear well; may even be overweight.
4. Most characteristic sign: *chronic fatigue;* child may be tired and listless after moderate effort.

II. Reinfection (adult) Type

1. Communicable (tubercle bacilli in sputum).
2. If discovered early, before symptoms, can be arrested.
3. Acquired by exposure to an active case.
4. No symptoms, as a rule, until disease is advanced.
5. Most likely to develop in adolescence or later.

Since few cases of the more serious reinfection type occur before adolescence, case-finding surveys are usually conducted in secondary schools.

An occasional case may escape observation and become advanced enough to show one or more of the following:

1. Cough
2. Fever, rapid pulse
3. Spitting of blood
4. Loss of weight
5. Night sweats
6. Lack of energy, easy fatigability
7. "Nervousness"
8. Chest pain
9. Pallor

Always remember that absence of the above symptoms does not rule out tuberculosis.

Any child whose history or symptoms suggest the possibility of tuberculosis should be referred to the Chest Board at Yale Street Clinic for examination.

Every student, regardless of how well he feels, or looks, should have a tuberculin test at least once during his high school career. If the test shows that tubercle bacilli have entered his body he should have a chest X-ray.

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Signs of Nervous Disorders

The teacher who has acquainted herself with the facts of mental hygiene can, by wise direction of her pupils, do much to forestall mental maladjustment and delinquency.

1. PERSONALITY TRAITS SUGGESTIVE OF NEED FOR ATTENTION:
   a. Shyness and lack of self-confidence
   b. Day-dreaming (excessive)
   c. Withdrawal from group activities
   d. Fears, timidity and excessive modesty
   e. Excessive self-assertion and pugnacity
   f. Crying and whining
   g. Temper tantrums
   h. Obstinacy and negativism
   i. Suspiciousness and "picked-on" complex
2. ASOCIAL AND ANTI-SOCIAL BEHAVIOR REQUIRING STUDY:
   a. Lying
   b. Stealing

c. Destructiveness
d. Truancy and running away
e. Cruelty
f. Excessive or morbid interest in sex

3. UNDESIRABLE HABITS:

a. Speech defects—stammering, lisping, etc.
b. Nail-biting, thumbsucking, etc.
c. Tics and habit spasms
d. Enuresis and self-wetting
e. Feeding and eating problems

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Endocrine Disorders

Children with poorly functioning endocrine glands often become socially maladjusted. They need expert diagnosis and treatment.

1. Sluggish thyroid gland (hypothyroidism)

a. Rough skin
b. Dry, brittle hair
c. Dry, brittle nails
d. Marked overweight with even distribution of weight (25% of cases)
e. Marked underweight (75% of cases)
f. Fatigability
g. Mental retardation
h. Delinquency
i. Physical deformity (crosseye, flat-foot)
j. Constipation
k. Menstrual irregularities in girls

2. Overfunctioning of thyroid (hyperthyroidism). Rare in children in this locality.

a. Enlargement of thyroid gland that can be seen
b. Rapid heart rate
c. Nervousness, irritability, distractability
d. Tremor of fingers (occasionally)
e. Sweating
f. Protrusion of eyeballs (exophthalmos) occasionally

3. Sluggish pituitary gland (hypopituitarism), usually associated with lowered thyroid gland function.

a. Marked overweight
b. Fat around hips and breasts
c. Small feet and hands
d. Lack of sexual development
e. Knock knees and pronated ankles

f. Tendency to short stature
g. Behavior problems (often)
h. Inordinate appetite for sweets, due to low blood sugar
i. Lack of personality development

4. Overfunctioning of pituitary gland (hyperpituitarism), rare.
   a. Gigantism (rare), increase in long bones
   b. Moderate enlargement of flat bones, especially jaw
   c. Mental retardation
5. Sex gland deficiency in adolescence.
   a. Obesity (fatness) located at hips
   b. Tall, slender type with wide hips
   c. Personality defects
   d. Problems in adjustment
6. Other endocrine disorders are occasionally seen but are too rare to be of practical importance from the standpoint of the teacher.
   a. Adrenal gland abnormalities
   b. Pancreatic gland abnormalities (diabetes)
   c. Thymus gland (persistence beyond normal age)

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Nose and Throat Defects

The conditions of the nose and throat that commonly need attention are enlarged and diseased tonsils and adenoids, sinus infections, nasal obstruction due to deviated septum, polyps, and chronic inflammations. These conditions are sometimes associated with deafness and mastoid and ear infections.

1. Mouth breathing—may indicate nasal obstruction or enlarged adenoids.
2. Chronic cough—may indicate upper respiratory infection or sinus infection.
3. Mucous discharge from nose—coryza or hay fever.
4. Frequent headaches—may indicate sinusitis.
5. Complaint of sore throat—if frequent, may indicate diseased tonsils.
6. Flat, muffled voice—may indicate enlarged tonsils or adenoids.

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Postural Defects

Poor posture, except in orthopedic conditions, is caused by bad habits of sitting, standing, and walking, poorly fitted clothing, eye and ear defects, malnutrition, chronic fatigue, debilitating diseases, and wrong habits in using play materials and carrying burdens. Most poor posture can be prevented. The alert teacher can help correct many

wrong postural habits in children. The more serious cases should be referred to the physician or nurse for enrollment in a corrective class.

1. Round shoulders, with protruding shoulder blades, depressed chest, and protruding abdomen
2. Scoliosis, or lateral curvature of spinal column
3. Forward tilting head
4. Lordosis, or forward curvature of the spinal column in the lumbar region or lower back
5. Flat back. (Not common in school children)
6. Improper balance
7. Pronated ankles
8. Flat feet

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Signs of Malnutrition

Malnutrition is not entirely a problem of social or economic status. Many children of well-to-do parents are suffering from nutritional deficiencies. These are chiefly due to lack of sufficient animal protein, vitamins, and minerals in the diet and too much starch and sugar. It is a problem of educating children and their parents how to purchase, prepare and consume an adequate balanced diet on a limited income.

1. How does the child look?
    a. Skin pale or sallow
    b. Mucous membranes pale, indicating anemia
    c. Hair dry and dull looking
    d. Dark circles under eyes (fatigue or poor diet)
    e. Usually thin, spindly arms and legs, flat chest
    f. Muscles stringy or flabby
    g. Fatigue slouch
    h. Expression pinched, anxious
    i. Teeth decayed; gums spongy
2. How does the child feel?
    a. Easily tired
    b. Nervous, irritable
    c. Concentration poor
3. How does he act?
    a. Restless and over-active or apathetic
    b. Fidgety, nervous, unstable
    c. Finicky appetite
    d. Sleeps poorly
    e. Dislikes too many articles of diet
    f. Wants too much candy
    g. Susceptible to colds, sore throat, skin infections
    h. Does poor work in school

SIMPLE SCREENING TESTS

Keeping in mind the fact that the teacher should never attempt to diagnose, which is the responsibility of the physician, there are a number of simple tests which she can administer with a little training. These tests involve the use of her eyes and ears and a minimum of simple equipment. The results will give the teacher a better insight into the health status of her pupils and will enable the physician to devote a larger share of his time to those children who most need attention. The following procedures have been found practicable and useful:

Health history

Health status of other members of family: deaths, tuberculosis, mental troubles, etc.

Former diseases, operations, accidents, and immunizations of pupil.

Health habits of pupil: rest, exercise, diet, elimination, medical and dental care, cleanliness.

General inspection

Posture
Nutrition
Skin—color, rashes, blemishes, cleanliness.
Teeth, nose, and throat. (See separate headings.)
Eyes

Snellen test:

To determine the visual acuity of each eye in elementary and secondary grades. The pupil stands 20 feet from the eye chart which should be in a good light, covers one eye with a card and reads as directed. If he reads all the letters or symbols on the 20/20 line his vision is normal. If he can read only the 20/30 line or larger type he probably does not need glasses unless he has symptoms of eyestrain. If he can read only 20/40 or larger he should be referred to the school physician for further examination. In testing for visual acuity the following points should be kept in mind:

1. A young child may be frightened or hurried into recording 20/200 vision while actually possessing normal acuity. Time should be taken to put him at ease.
2. Constant watching is required to keep young children from peeking around the side of the eye cover when the covered eye has good sight and the uncovered eye has very poor sight. They are impressed with the need for answering correctly and forget or don't understand that the test is for visual acuity, not reading ability.

3. Never hang a chart near an uncovered window if the child, while reading the chart, has to face the window.
4. Do not have a bright light (natural or artificial) shining into the eyes of the child being tested; do not hang the chart in direct sunlight.
5. Avoid the use of an eye cover that reflects a bright light into the covered eye. Use dull opaque material.
6. Never allow the child to press the eye cover or his hand against the covered eye while reading with the other one. This temporarily blurs the vision of the covered eye.
7. Do not ask a young child to read every character on a chart nor even all the larger characters of the upper lines if he can read the smaller ones. The attention span of young children is short.
8. Do not leave the charts in view where they may be memorized, nor allow children standing around waiting to be tested to be closer than 20 feet from the chart. Also, do not have many children waiting at a time as they may memorize the letters they cannot see by hearing them oft repeated.
9. It is always advisable to point to the character to be read as the young child easily loses his place and becomes confused.

The convergence near point test:

Have the child fix on a point, as the tip of a pencil, at 13 inches straight in front and slightly below the plane of his eyes and then follow the point as it is gradually moved toward the tip of his nose. Both eyes should converge equally until the point reaches a distance of not more than 3 inches from the eyes. Marked failure, 5 inches or more, is an indication of "convergence insufficiency" and is associated with difficulty, as in reading. It warrants recommendation for further examination.

This test determines the ability of the child to converge his eyes equally while fixing them on a common point. Its practical significance is that it determines his ability to obtain a visual image of a common point with either eye simultaneously and with ease when performing close tasks as reading, writing or fine mechanical work.

The ocular muscle balance test (screen test):

A test for determining the coordination of the eyes at the reading distance of 13 to 15 inches.

Hold a pencil about 14 inches directly in front of the pupil's eyes and have him look fixedly at it. Cover one eye with a card and shift the card quickly from one eye to the other. Note whether the uncovered eye moves to find the pencil point. If there is a noticeable

movement refer the child for further examination. Some of the conditions causing incoordination are:

1. One eye muscle stronger than its opposing muscle.
2. Faulty attachment of muscles to the eye ball.
3. Inequality in the refraction of the eyes.
4. Undeveloped fusion sense.

The practical significance of ocular muscle imbalance is that it makes it difficult for the child to maintain fusion. Fusion is impossible if the eyes are in a state of constant imbalance.

This test should be given to all pupils having any difficulty in reading or other near work even if their visual acuity be normal.

Ears.

Whispered voice test.

Select the quietest room available. Have the child stand 20 feet from and sidewise to the examiner while closing the opposite ear with the finger. Whisper (using only residual air, after full exhalation) "Can you hear what I say?" or any stock sentence, getting the child to repeat the sentence. If the child cannot repeat the sentence, come closer until he can. Repeat for the other ear. In a very quiet room the child whose hearing is normal should hear the whisper at 20 feet. In the average classroom, which is more or less noisy, he should hear the whispered voice at 10 feet or more. If he cannot he should be referred to the school physician.

Hernia (rupture).

Physical education teachers can observe abnormal swellings in the groin or the umbilical region which may indicate hernia.

Undescended testicle.

In boys the failure of descent of one or both testicles may be noted by the physical education instructor.

Athlete's foot.

Physical education teachers (boys and girls) while inspecting for flat feet and pronation of ankles can note raw red areas or blisters between the toes or on the soles which may indicate epidermophytosis or fungus infection.

Signs and symptoms of various other health defects are listed in this publication under their respective headings.

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A HEALTHFUL SCHOOL ENVIRONMENT

Lighting: Adequate, well diffused light is essential for avoidance of eyestrain. Shades should be so adjusted that natural lighting is adequate, without glare. Provision for artificial illumination also should be adequate in all parts of room. The teacher should watch and adjust both natural and artificial lighting and, if objectionable conditions are found, should report them. A study of the principles of modern light-

ing as explained by the Illuminating Engineering Society will be found profitable. Standards for adequate amounts of light have been raised considerably in recent years. These greater intensities have focused attention on preventing glare and avoiding excessive heat by proper diffusion and reflection. Much research remains to be done.

Minimum Footcandles Recommended for Various Tasks—Luckiesh

Halls, corridors, cafeterias, toilets, etc.	10	footcandles
Classrooms for reading and writing	15-25	"
Reading a dictionary or other fine print	35	"
Woodshop	25-50	"
Sewing on dark goods	45	"
Sewing with white thread on white crepe cloth	100*	"
Proofreading	50-100*	"
Drafting	50-100*	"
Fine machine work	50-100*	"
Typesetting	500*	"
Precision die making	700*	"

All the above should be increased for defective eyesight.

*With these higher intensities avoidance of glare and excessive heat is difficult unless some modern type of lighting similar to the present fluorescent tube (in process of improvement) can be used.—Ed.

Reference: American Recommended Practice of School Lighting, adopted by the American Standards Association, Feb. 17, 1938, Washington Illuminating Engineering Society, and the American Institute of Architects, 1938.

Ventilation

Health temperature, because it is most comfortable, is 68-70 degrees F. Overheated classrooms slow up pupils' work and tend to lower resistance to colds and other respiratory infections. Since temperatures commonly vary during the day, constant vigilance is required to avoid overheating classrooms in winter. To ventilate the classroom the following simple measures are recommended:

1. If temperature is above 70°, turn off heat.
2. At all times open *all* windows at bottom sufficiently high to keep temperature at required level.
3. Keep transoms open at all times.
4. All windows should be provided with deflectors.

Seating: In kindergarten and first grade where chairs and tables are used, these should be assigned according to height of child. A chair or seat should be low enough so that the pupil can place his feet on the floor in comfort and without pressure on back of thigh. Table or desk should be of such height that pupil can sit upright in a comfortable position without reaching up or bending over. The back of a seat or chair should conform to the anatomical curves of the spine. Children should not be allowed by the teacher to assume slouchy or unhygienic postures.